CERTIFICATE OF TRANSMISSION BY FACSIMILE (37 CFR 1.8) Applicant(s): Hideki OYAMA et al.			Docket No. L7961.01101
Application No. 09/963,593	Filing Date September 27, 2001	Examiner D. Sample	Group Art Unit 1755

Invention:
COLORED GLASS FOR LIGHTING, COLORED GLASS BULB AND METHOD FOR PRODUCING THEREOF

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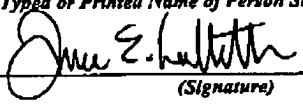
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Inventors: Hideki OYAMA et al. Art Unit: 1755

Serial No.: 09/963,593 Examiner: D. Sample

Filed: September 27, 2001

For: COLORED GLASS FOR LIGHTING, COLORED GLASS BULB AND METHOD FOR PRODUCING THEREOF

SUPPLEMENTAL SUBMISSION ACCOMPANYING REQUEST FOR CONTINUED EXAMINATION

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

Sir:

A Request for Continued Examination was filed on October 12, 2004. Claims 6-8, 12, 15-18, 21-25 and 31-33 are pending.

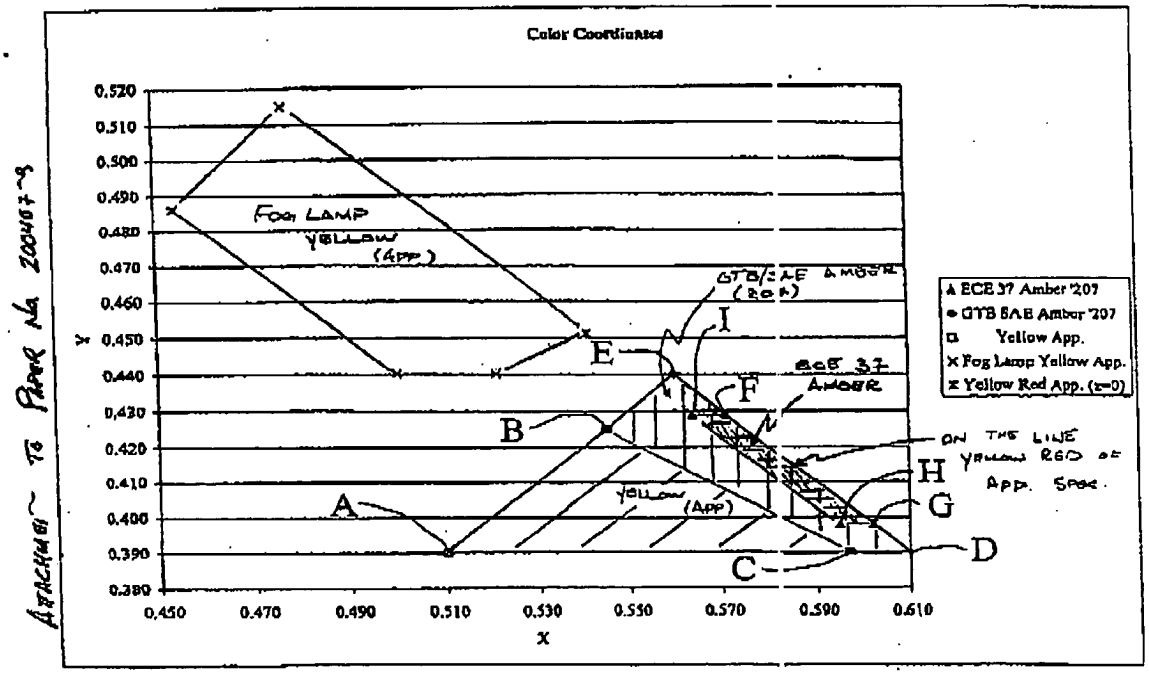
As noted in the Submission filed October 22, 2004, the Examiner's Statement of Reasons for Allowance incorrectly asserts that claims 15, 16, 32 and 33 do not disclose or suggest an "amber" glass as recited in the claims of the '207 patent. The Applicants submit that this Statement is not correct. The color of the glass of claims 15, 16, 32 and 33 has a range of B-C-D-E not A-B-C. Referring to Tables 1-4 of the present specification, each of the

glasses of Examples 8, 13 and 14 of the present specification is included in the range of B-C-D-E.

More particularly, each of instant claims 15, 16, 32 and 33 defines 1) y=0.39, 2) y=0.79-0.67x, and 3) y=x-0.12. Based on these ranges, the Examiner's Statement of Reasons for Allowance plots polar coordinates, and asserts that "the present claims do not disclose or suggest an "amber" glass as recited in the claims of the '207 patent."

However, this assertion is not correct.

The drawing below is a copy of the plot in the Notice of Allowability with symbols A to I.



According to the definition 1) y=0.39, 2) y=0.79-0.67x, and 3) y=x-0.12, the Examiner's Statement recognizes that the glass of each of claims 15, 16, 32 and 33 has the color having a range A-B-C (the range in a triangle formed by the plots A, B and C.

However, even if 1) y=0.39, 2) y=0.79-0.67x, and 3) y=x-0.12 are merely defined, those skilled in the art would recognize the color of the glass of claims 15, 16, 32 and 33 has a range of B-C-D-E.

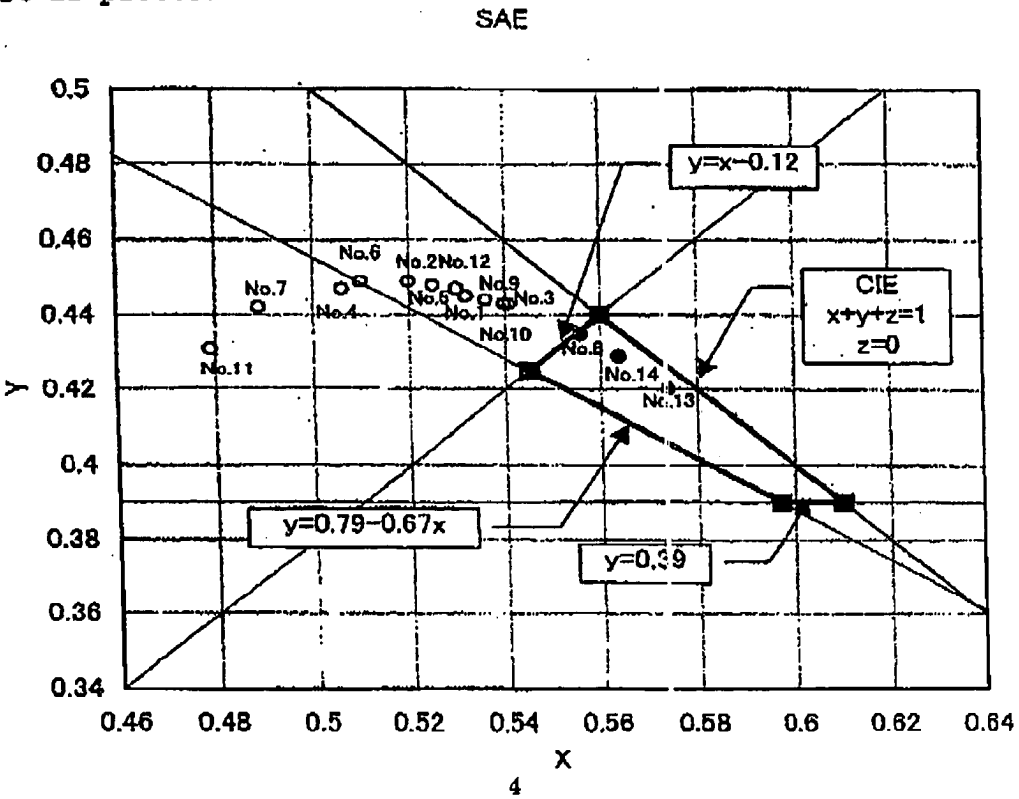
Attached is a copy of SAE J 578. 3.1.2 Yellow (Amber) is noted on page 2 of the SAE. The definition of 1) y=0.39, 2) y=0.79-0.67x, and 3) y=x-0.12 is noted. Also, the description is made in 3.1 Chromaticity Coordinates on page 2 of SAE that "The fundamental requirements for color are expressed as chromaticity coordinates according to the CIE (1931) standard colormetric system (see Fig. 1)." Also, Fig. 1 on page 6 of SAE shows yellow.

As is apparent from the above, those skilled in the art would recognize that the yellow has the range indicated in Fig. 1, even if only three definitions 1) y=0.39, 2) y=0.79-0.67x, and 3) y=x-0.12 are provided. Those skilled in the art are aware of premises "x+y+z=1" and "z=0." It is noted that even SAE does not

indicate such premises. Thus, even if 1) y=0.39, 2) y=0.79-0.67x, and 3) y=x-0.12 are merely defined, those skilled in the art would consider these premises. And considering these premises, the color of the glass of claims 15, 16, 32 and 33 has a range of B-C-D-E, not A-B-C.

In addition, the present application's specification discloses chromaticity (x,y) specifically. Please note Tables 1-4 of the present application.

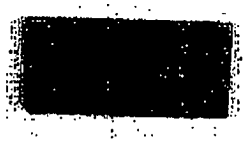
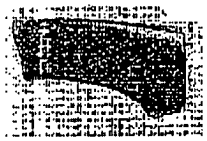
In the drawing below, each of the chromaticity of Examples 1-14 is plotted.

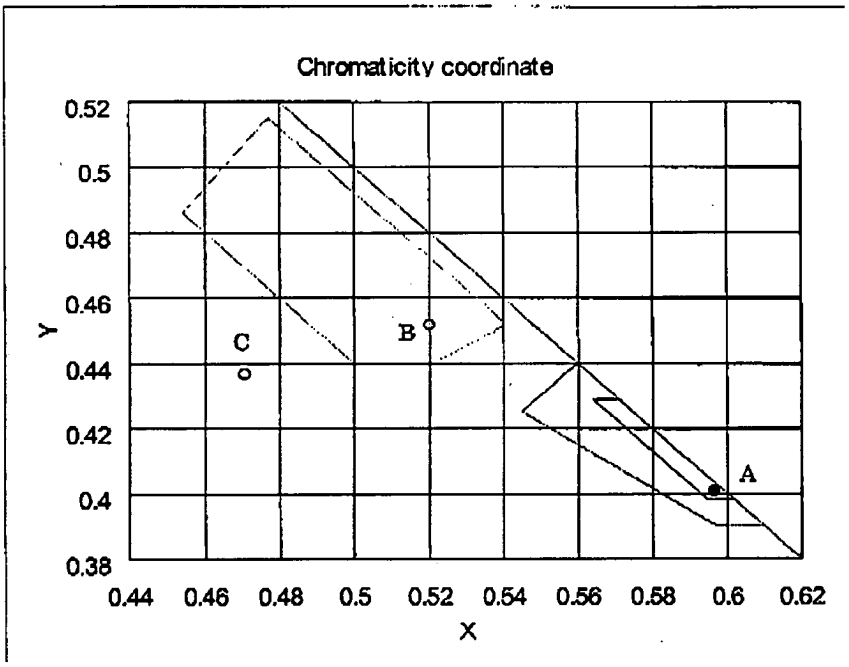


As is apparent from the above drawing, the color of the glass according to the present invention does not have the range of A-B-C. It is noted that each of the glasses of Examples 8, 13 and 14 is included in the range B-C-D-E. The specification states that "The color of the samples 8, 13 and 14 were in the range of SAE standard" (see application page 12, lines 11-12).

Also, in the plot in the Notice of Allowability, there is an indication regarding yellow-red, but the Examiner's Statement reflects an understanding that the yellow-red glass according to the present invention has a range just on the line F-G. However, this understanding is not correct. The yellow-red glass according to the present invention has a range F-G-H-I because the Examiner's Statement fails to consider $z \leq 0.007$.

Further, the table and graph below show three samples A, B, C.

Sample		A	B	C
				
Content	MoO3	0.06%	0.1%	0.1%
	S	0.4%	0.2%	0.1%
Chromaticity	X	0.5965	0.5201	0.4706
	Y	0.4007	0.4519	0.4369



Sample A includes 0.06% of MoO3 and 0.4% of S (claims 6, 17 and 25). The chromaticity of sample A is x= 0.5965 and y = 0.4007.

Sample B includes 0.1% of MoO3 and 0.2% of S (claims 6 and 17). The chromaticity of sample B is x= 0.5201 and y = 0.4519.

Sample C includes 0.1% of MoO3 and 0.1% of S (claims 6 and 17). The chromaticity of sample C is x= 0.4706 and y = 0.4369.

The chromaticities of samples A, B and C are plotted in the graph below entitled "Chromaticity coordinate". It is apparent that sample A is included in the range "B-C-D-E" of the sketch below, whereas samples B and C are not included in the range "B-C-D-E."

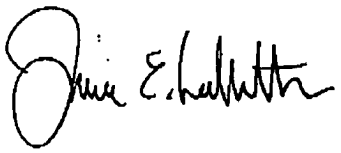
It is noted that claims other than claims 15, 16, 32 and 33, for example, claim 17 defines "0.01-0.6 of weight ratio of Mo (molybdenum) as MoO3 (molybdenum trioxide) and 0.01-1.0 of weight ratio of S (sulfur)." Thus, samples A, B and C are included in claim 17.

Thus, the yellow color coordinates are inherent to other claims, such as claim 17.

The understanding reflected in the Notice of Allowability is not correct.

For at least the above reasons, it is requested that the Examiner's Statement of Reasons for Allowance be revised and corrected.

Respectfully submitted,



Date: November 12, 2004

James E. Ledbetter
Registration No. 28,732

JEL/EPR/att
ATTORNEY DOCKET NO. L7961.01101
STEVENS, DAVIS, MILLER & MOSHER, L.L.P.
Suite 850
1615 L Street, N.W.
Washington, D.C. 20036
Telephone: (202) 785-0100
Facsimile: (202) 408-5200

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Submitted for recognition as an American National Standard

HIGHWAY VEHICLE STANDARD

SAE J578

Issued Jan. 1942
Revised May 1988

Superseding J578 OCT87

COLOR SPECIFICATION

1. SCOPE: This standard defines and provides a means for the control of colors employed in motor vehicle external lighting equipment, including lamps and reflex reflectors. The standard applies to the overall effective color of light emitted by the device in any given direction and not to the color of the light from a small area of the lens. It does not apply to pilot, indicator, or tell-tale lights.

2. TEST METHODS:

2.1 Method of Color Measurement: One of the methods listed in paragraphs 2.1.1, 2.1.2, or 2.1.3 shall be used to check the color of the light from the device or its optical components for compliance with the color specifications. The device shall be operated at the design test voltage. Components (bulbs, cap lenses, and the like) shall be tested in a fixture or in a manner simulating the intended application.

In measuring the color of reflex devices, precautions shall be made to eliminate the first surface reflections of the incident light.

Lighting devices that are covered with neutral density filters shall be tested for color with such filters in place.

2.1.1 Visual Method: In this method, the color of the emitted light from the device is visually compared to the light from a filter/source combination of known chromaticity coordinates. The filter/source combinations are generally chosen to describe the limits of chromaticity coordinates of the color being measured. The color of the filter/source combination is determined spectrophotometrically.

In making visual appraisals, the light from the device lights one portion of a comparator field and the filter/source standard lights an adjacent area. The two fields should be in close proximity to each other.

2.1.1 (Continued):

To make valid visual comparisons, the two fields to be viewed must be of near equal luminace (photometric brightness). A means of mechanically adjusting the filter/source standard is generally used to accomplish this. See Appendix for measuring precautions.

2.1.2 Tristimulus Method: In this method, photoelectric detectors with spectral responses that approximate the 1931 CIE standard spectral tristimulus values are used to make the color measurements. These measured tristimulus values are used to calculate the chromaticity coordinates of the color of emitted light from the device. The instrument used for this type of measurement is a colorimeter. These instruments are generally used for production control of color and are satisfactory if calibrated against color filters of known chromaticity coordinates.

Visual tristimulus colorimeters can also be used for color evaluation. See appendix for measuring precautions.

2.1.3 Spectrophotometric Method: The standard CIE method of color measurement is computing chromaticity coordinates from the spectral energy distribution of the device. This method should be used as a referee approach when the commonly used methods produce questionable results.

Refer to ASTM E308-66 for more details on spectrophotometric measurements (reprinted in the SAE Lighting Manual HS34).

ed. 3. DEFINITIONS:

3.1 Chromaticity Coordinates: The fundamental requirements for color are expressed as chromaticity coordinates according to the CIE (1931) standard colorimetric system (see Fig. 1). The following requirements shall apply when measured by the tristimulus or spectrophotometric methods.

3.1.1 Red: The color of light emitted from the device shall fall within the following boundaries:

$y = 0.33$ (yellow boundary)

$y = 0.98 - x$ (purple boundary)

3.1.2 Yellow (Amber): The color of light emitted from the device shall fall within the following boundaries:

$y = 0.39$ (red boundary)

$y = 0.79 - 0.67x$ (white boundary)

$y = x - 0.12$ (green boundary)

3.1.2.1 Selective Yellow (See A-2 Appendix): The color of light emitted from the device shall fall within the following boundaries:

$y = 0.58x + 0.14$ (red boundary)

$y = 1.29x - 0.10$ (green boundary)

$y = 0.97 - x$ (white boundary)

3.1.3 White (Achromatic): The color of light emitted from the device shall fall within the following boundaries:

$x = 0.31$ (blue boundary)

$x = 0.50$ (yellow boundary)

$y = 0.15 + 0.64x$ (green boundary)

$y = 0.05 + 0.75x$ (purple boundary)

$y = 0.44$ (green boundary)

$y = 0.38$ (red boundary)

3.1.3.1 White to Yellow: The color of light emitted from the device shall fall within one of the following areas:

(a) That defined in paragraph 3.1.2 Yellow.

(b) That defined in paragraph 3.1.2.1 Selective Yellow.

(c) That defined in paragraph 3.1.3 White.

(d) The area between Yellow, Selective Yellow, and White as shown by the dashed line in Fig. 1.

3.1.4 Green: The color of light emitted from the device shall fall within the following boundaries:

$y = 0.73 - 0.73x$ (yellow boundary)

$x = 0.63y - 0.04$ (white boundary)

$y = 0.50 - 0.50x$ (blue boundary)

3.1.5 Blue: The color of light emitted from the device shall fall within the following boundaries:

3.1.5.1 Restricted Blue: This color should be elected when recognition of blue as such is necessary.

$y = 0.07 + 0.81x$ (green boundary)

$x = 0.40 - y$ (white boundary)

$x = 0.13 + 0.60y$ (violet boundary)

3.1.5.2 Signal Blue: This color may be elected when, due to other factors, it is not always necessary to identify blue as such.

$y = 0.32$ (green boundary)

$x = 0.16$ (white boundary)

$x = 0.40 - y$ (white boundary)

$x = 0.13 + 0.60y$ (violet boundary)

3.2 Visual Method: When checking by the visual method of paragraph 2.1.1, the following subjective guidelines shall be considered:

3.2.1 Red: Red shall not be acceptable if it is less saturated (paler), yellower, or bluer than the limit standards.

3.2.2 Yellow (Amber): Yellow shall not be acceptable if it is less saturated (paler), greener, or redder than the limit standards.

3.2.3 White: White shall not be acceptable if its color differs significantly from that of a blackbody source operating at a color temperature between CIE Illuminant A (2854K) and CIE Illuminant B (5000K).

3.2.4 Green: Green shall not be acceptable if it is less saturated (paler), yellower, or bluer than the limit standards.

3.2.5 Blue: Blue shall not be acceptable if it is less saturated (paler), greener, or redder than the limit standards.

APPENDIX

A1. PRECAUTIONS: The following are applicable to all methods of determining the color of light:

a) Some devices may emit a different color of light in one direction than another. Measurements should be made in as many directions as required to define the color characteristic of emitted light.

Some instruments (tristimulus and spectroradiometric) use an integrating sphere at the inlet port of the device to integrate all the light from the device. Care should be taken to assure that the integrating sphere is not combining different color light emitted in different directions from the device and thereby providing an erroneous reading.

b) The lamp and optical components should be allowed to reach operating temperature before any measurements are made. Lamps should be operated at design voltage.

If visually the device does not appear to be emitting light with a uniform color, additional precautions should be taken.

c) The distance between the test instrument and the device under test should be great enough so that further increases in distance do not affect the results. The visual field of the instrument should view the entire lighted area of the device.

A2. COLOR APPLICATION: Selective yellow is used on a limited basis primarily for fog lights and is not to be used in turn signal, parking, identification, clearance, sidemarker, and school bus warning lamps, or yellow reflex reflector applications as required by FMVSS 108.

A3. NEUTRAL DENSITY: Filtering materials are sometimes used over existing lighting devices to reduce the light intensity but not to change the fundamental color requirements as detailed in SAE J578.

A4. ORANGE FLUORESCENT INFORMATION GUIDELINE: Definitions and Requirements for Orange Fluorescent color can be found in the appropriate SAE Recommended Practice or Standard. Refer to SAE J774, Emergency Warning Device, or SAE J943, Slow-moving Vehicle Identification Emblem or to FMVSS No. 125, Warning Devices, 39 FR 28636, Aug. 9, 1974 as amended at 40 FR4, Jan. 2, 1975.

A5. COLOR MEASUREMENTS OF GASEOUS DISCHARGE LIGHTING DEVICES: Some laboratories cannot measure the color of light from the short pulses of lamps that use discharge tubes and, therefore, these lamps need a steady burning test source, operated at the color temperature of the gaseous discharge warning lamp. Use of CIE Illuminant C for strobe lights has been confirmed by independent testing laboratories.

A6. CITED ASTM REPORT: ASTM E 308-66, Standard Practice for Spectrophotometry and Description of Color in CIE 1931 System. Reprinted in SAE Ground Vehicle Lighting Manual, HS-34.

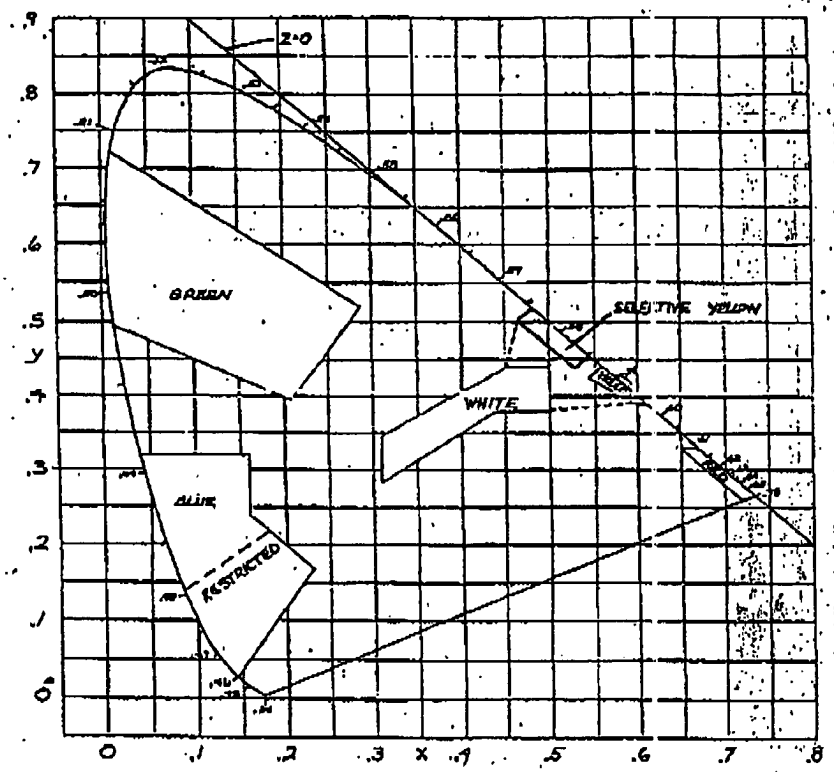

FIG. 1 - CHROMATICITY DIAGRAM

The phi (Ø) symbol is for the convenience of the user in locating areas where technical reivsions have been made to the previous issue of the report. If the symbol is next to the report title, it indicates a complete revision of the report.